Curriculum Vitæ

Priv.Doz. Paolo Piovano, Ph.D.

Contact Information

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Personal Group	https://www.univie.ac.at/variationalmethods/

Research Interests

My academic formation is in the areas of **PDEs**, the **Calculus of Variations**, and **Geometric Measure Theory**, and my current research interests relate to the **Mathematical Modeling** in the framework of **Continuum** and **Molecular Mechanics** with current main field of applications in **Nanostructure Design**, **Materials Science**, and more recently, **Bio-Engineering**. The focus is on free boundary problems and atomistic models related to **molecular geometry and stability**, epitaxially strained and ferromagnetic **thin films**, **tissue growth**, and **bone regeneration** in polymeric scaffolds. The ultimate goal is to **validate reliable models** in agreement with experimental evidence and hence, my investigations have an **interdisciplinary aspect**, especially by benefiting from the active cooperation with applied scientists.

Employment Information

Nov 2020 - May 2021	**Visiting Professor in Pure Mathematics and Excellence Chair** at the Okinawa Institute of Science and Technology (OIST), Japan (possibly partially in remote because of COVID-19, website: https://groups.oist.jp/mathprog)
Dec 2019 - Now	**Privatdozent** at the University of Vienna, Austria
Sep 2017 - Now	**Project Leader and Senior Post-doc**, Faculty of Mathematics, University of Vienna, Austria, and **head of the research group** on Variational Methods and Applications (website: https://www.univie.ac.at/variationalmethods/)
Sep 2013 - Aug 2017	**Universitätsassistent**, Faculty of Mathematics, University of Vienna, Austria
Mentor	Prof. Ulisse Stefanelli
Jun 2016 - Dec 2016	**Adjunct Professor**, Webster University Vienna, Austria
Sep 2012 - Aug 2013	**Postdoctoral Associate**, National Research Council (CNR-IMATI), Pavia, Italy
Mentor	Prof. Ulisse Stefanelli

Habilitations

Jun 2020 - Jun 2029	**Italian habilitation**, namely "*Abilitazione Scientifica Nazionale (ASN) a Professore di II fascia per il settore concorsuale 01/A3 (analisi matematica, probabilità e statistica matematica)*".
Dec 2019	**Habilitation in Mathematics** (*Venia Docendi*) successfully completed at the University of Vienna, Austria.

Education

Sep 2009 - Aug 2012	**Ph.D. Studies**, Department of Mathematical Sciences, Carnegie Mellon University, Pittsburgh, PA, USA. Ph.D. certificate on August 14, 2012.
Supervisors	Prof. Irene Fonseca and Prof. Giovanni Leoni
Dissertation	*Evolution and Regularity Results for Epitaxially Strained Thin Films and Material Voids*
Aug 2007 - Sep 2009	**M.Sc. in Mathematics**, Department of Mathematical Sciences, Carnegie Mellon University, Pittsburgh, PA, USA.
Supervisors	Prof. Irene Fonseca and Prof. Giovanni Leoni
Feb 2007 - Jul 2007	**Research Assistant** (MIUR Grant PRIN 05), Department of Mathematics, University of Torino, Italy
Mentor	Prof. Paolo Cermelli
Sep 2004 - Jul 2006	**M.Sc. in Mathematics**, Department of Mathematics, University of Turin, Italy, grade: *Summa cum Laude et Mentione.*
Supervisor	Prof. Paolo Caldiroli
Dissertation	*Travelling Waves for Suspension Bridge Type Equations*
Sep 2001 - Sep 2004	**B.Sc. in Mathematics**, Department of Mathematics, University of Turin, Italy, grade: *Summa cum Laude.*
Supervisor	Prof. Paolo Cermelli
Dissertation	*Power Laws and Phase Transitions: an Application to Human Language*

Publications

- **Submitted to Peer-Reviewed Journals:**

[19] P. Piovano, I. Velčić
Microscopical justification of solid-state wetting and dewetting.
Submitted (2020).
https://arxiv.org/abs/2010.08787

[18] Sh. Kholmatov, P. Piovano
Existence of minimizers for the SDRI model.
Submitted (2020).
https://arxiv.org/abs/2006.06096

- **Peer-Reviewed Journal Publications:**

[17] L. Kreutz, P. Piovano,
Microscopic validation of a variational model of epitaxially strained crystalline films.
SIAM J. Math. Anal., in press (2020).
https://arxiv.org/abs/1902.06561

[16] E. Davoli, M. Kružík, P. Piovano, U. Stefanelli,
Magnetoelastic thin films at large strains.
Continuum Mech. Thermodyn., in press (2020).
https://doi.org/10.1007/s00161-020-00904-1

[15] Sh. Kholmatov, P. Piovano,
A unified model for stress-driven rearrangement instabilities.
Arch. Ration. Mech. Anal., **238** (2020), 415–488.
https://doi.org/10.1007/s00205-020-01546-y

[14] E. Davoli, P. Piovano,
Derivation of a heteroepitaxial thin-film model.
Interface Free Bound., **22-1** (2020), 1–26.
https://doi.org/10.4171/IFB/435

[13] M. Friedrich, E. Mainini, and P. Piovano,
Atomistic potentials and the Cauchy-Born rule for carbon nanotubes: a review
Rendiconti Semin. Mat. Univ. Pol. Torino, **77-2** (2019), 79–98.
https://arxiv.org/abs/1909.12023

[12] E. Davoli, P. Piovano,
Analytical validation of the Young-Dupré law for epitaxially-strained thin films.
Math. Models Methods Appl. Sci., **29-12** (2019), 2183–2223.
https://doi.org/10.1142/S0218202519500441

[11] E. Mainini, P. Piovano, B. Schmidt, U. Stefanelli,
$N^{3/4}$ law in the cubic lattice.
J. Stat. Phys., **176-6** (2019), 1480–1499.
https://doi.org/10.1007/s10955-019-02350-z

[10] M. Friedrich, E. Mainini, P. Piovano, U. Stefanelli,
Characterization of optimal carbon nanotubes under stretching and validation of the Cauchy-Born rule.
Arch. Ration. Mech. Anal., **231-1** (2019), 465–517.
https://doi.org/10.1007/s00205-018-1284-7

[9] E. Mainini, H. Murakawa, P. Piovano, U. Stefanelli,
Carbon-Nanotube Geometries as Optimal Configurations.
Multiscale Model. Simul., **15-4** (2017), 1448–1471.
https://doi.org/10.1137/16M1087862

[8] E. Davoli, P. Piovano, and U. Stefanelli,
Sharp $N^{3/4}$ Law for the Minimizers of the Edge-Isoperimetric Problem on the Triangular Lattice
J. Nonlinear Sci., **27-2** (2017), 627–660.
https://doi.org/10.1007/s00332-016-9346-1

[7] E. Mainini, H. Murakawa, P. Piovano, U. Stefanelli,
Carbon-Nanotube Geometries: Analytical and Numerical Results.
Discret. Contin. Dyn. Syst. Ser. B, **10-1** (2017), 141–160.
https://doi.org/10.3934/dcdss.2017008

[6] M. Friedrich, P. Piovano, U. Stefanelli,
The Geometry of C_{60}: A rigorous Approach via Molecular Mechanics.
SIAM J. Appl. Math., **76-5** (2016), 2009–2029.
https://doi.org/10.1137/16M106978X

[5] E. Davoli, P. Piovano, U. Stefanelli,
Wulff Shape Emergence in Graphene.
Math. Models Methods Appl. Sci., **26-12** (2016), 2277–2310.
https://doi.org/10.1142/S0218202516500536

[4] E. Mainini, P. Piovano, U. Stefanelli,
Crystalline and Isoperimetric Square Configurations.
Proc. Appl. Math. Mech. **14**, (2014) 1045–1048.

[3] E. Mainini, P. Piovano, U. Stefanelli,
Finite Crystallization in the Square Lattice.
Nonlinearity, **27** (2014), 4:717–737.
https://doi.org/10.1088/0951-7715/27/4/717

[2] P. Piovano,
Evolution of Elastic Thin Films with Curvature Regularization via Minimizing Movements.
Calc. Var. Partial Differential Equations, **49** (2014), 337–367.
https://doi.org/10.1007/s00526-012-0585-1

- **Monographs:**

[1] P. Piovano,
Evolution and Regularity Results for Epitaxially Strained Thin Films and Material Voids.
ProQuest PhD Thesis – Carnegie Mellon University 2012, Vol. **74-01(E)**, Sect. B, p. 108. ISBN: 978126765534

- **Non Peer-Reviewed Publications:**

P. Piovano,
Microscopic validation of a variational model of epitaxially strained crystalline films.
Oberwolfach Rep. **49** (2019), 35–37.
https://www.mfo.de/occasion/1844/www_viewpdf

Grants as Principal Investigator (PI)

Apr 2021 - Mar 2023 Grant awarded by the Austrian Science Fund (FWF):

Source	1000 Ideas Programme
Role	Principal Investigator (PI)
Title	MAthematical Modeling of BOne engineering (MAMBOing)
Budget	∼143K €
Period	2 years

Feb 21-25, 2022 Grant for the workshop supported by the Erwin Schrödinger International institute (ESI):

Source	Erwin Schrödinger International institute (ESI)
Role	Organizer with G. Bellettini (Siena) and Sh. Kholmatov (Vienna)
Title	Free Boundary Problems and Related Evolution Equations
Budget	19.2K €
Period	1 week

Jan 2020 - Dec 2021 Grant funded by OeAD/International Cooperation in Higher Education:

Source	WTZ Grant Scientific & Technological Cooperation Austria/Croatia
Role	PI for Austria with co-PI I. Velčić (Zagreb) for Croatia
Title	Variational Multiscale Models for Materials (VarM^3)
Budget	∼8K €
Period	2 years

Jul 2017 - Aug 2021 Grant awarded by the Vienna Science and Technology Fund (WWTF) (co-financed also by Berndorf Privatstiftung):

Source	WWTF "Mathematics and..." Program
Role	PI with co-PI U. Diebold (TU Vienna)
Title	MOdeling and DEsign of epitaxially strained NAnoislands (MODENA)
Budget	∼600K €
Period	4 years
Website	https://modena.univie.ac.at

Sep 2017 - Aug 2021 Grant awarded by the Austrian Science Fund (FWF):

Source	FWF Stand-Alone Project
Role	PI
Title	Optimal Shapes of Crystal Interfaces (OSCI)
Budget	∼332K €
Period	4 years
Website	https://osci.univie.ac.at

Nov 11-15, 2019 Grant for the workshop supported by the Erwin Schrödinger International institute (ESI):

Source	Erwin Schrödinger International institute (ESI)
Role	Organizer with U. Diebold (TU Vienna) and I. Fonseca (CMU)
Title	Modeling of Crystalline Interfaces and Thin Film Structures: a Joint Mathematics-Physics Symposium
Budget	14.4K €
Period	1 week
Website	https://www.univie.ac.at/esi_workshop_thin_films/

Project Team Member

Jan 2019 - Apr 2021 Grant by Austrian Science Fund (FWF):

Source	FWF Lise-Meitner Program
Role	Co-author and co-applicant with PI Sh. Kholmatov (Vienna)
Title	Liquid and Crystalline Films: Wetting and Evolution
Budget	∼156K€
Period	2 years & 3 months

Jan 2019 - Dec 2020 *Team member* for the research projects with PIs *E. Davoli* (Vienna) and *M. Kružík* (UTIA, Prague): WTZ Scientific and Technological Cooperation Project of the OeAD (title: Mathematical Frontiers in Large Strain Continuum Mechanics, period: 2019-2020, budget: 7K€), FWF-GACR Joint International Project (title: Large Strain Challenges in Materials Science, country: Czech Republic, period: 2019-2021, budget: ∼366K€).

Sep 2015 - Aug 2017 *Team member* for the research projects with PI *U. Stefanelli* (Vienna): WTZ Scientific and Technological Cooperation Project of the OeAD (title: Thermomechanics of solids: modeling, analysis, and simulations, period: 2016-2018, budget: 7K€), FWF-GACR Joint International Project (title: Variational Structures in Thermomechanics of Solids, period: 2016-2019, budget: ∼109K€), WWTF "Mathematics and .." Grant (title: Variational Modeling of Carbon Nanostructures, period: 2015–2018, budget: ∼540K€), FWF Grant (title: Global Variational Methods for Nonlinear Evolution, period: 2015-2017, budget: ∼330K€).

Sep 2009- Aug 2012 *Research Fellowships* for the research projects with PI *G. Leoni* (CMU, Pittsburgh): American National Science Foundation (NSF) Grant No. DMS-0708039 (title: Modern methods in the Calculus of Variations with applications to materials science and hydrodynamics, budget: ∼132K$),Grant No. DMS-1007989 (title: Variational methods for materials science, mechanics, and imaging, period: 2010-2014, budget: ∼300K$).

Sep 2007- Aug 2009 *Research Fellowships* for the research projects with PI *I. Fonseca* (CMU, Pittsburgh): American National Science Foundation (NSF) Grant No. DMS-0401763 (title: Variational Problems and their Applications, budget: ∼500K$) and Grant No. DMS-0905778 (title: Variational Methods in Imaging and in Materials, budget: ∼1170K$).

Personal Research Group

Name: *Variational Methods and Applications*, Faculty of Mathematics, University of Vienna.

Website: https://www.univie.ac.at/variationalmethods/

Postdoc Members: - Dr. Leonard Kreutz for a year from September 18, 2017;

- Dr. Shokhrukh Kholmatov from October 1, 2017;

- Call for a postdoc position currently advertised at https://www.univie.ac.at/variationalmethods/announcements/Postdoc_call_University_of_Vienna.pdf and on https://www.mathjobs.org/jobs/list/16721.

PhD Student: - Randy Llerena from September 16, 2019 (in co-supervision with Prof. Jean-François Babadjian, University Paris Sud).

Preadocs: Mr. Filipp Lausch, Bachelor thesis at the Department of Mathematics, University of Vienna with thesis dissertation on January 20, 2016.

Cooperation Research Partners

I. Fonseca, G. Leoni (Carnegie Mellon University, Pittsburgh, USA); H. Murakawa (Kyushu University, Fukuoka, Japan); B. Schmidt (Augsburg, Germany); M. Friedrich, L. Kreutz (Münster, Germany); P. Caldiroli, P. Cermelli (Turin, Italy); E. Mainini (Genoa, Italy); Stefan Krömer, Martin Kružík (Prague, Czech Republic); Igor Velčić (Zagreb, Croatia); Sh. Kholmatov, U. Stefanelli (Vienna, Austria); E. Davoli, U. Diebold (TU Vienna); F. Jenner (University of Veterinary Medicine, Vienna).

Scientific Visits

Nov 2020 - May 2021 *Visiting Professorship in Pure Mathematics* at the Okinawa Institute of Science and Technology (OIST), Japan (to start in remote because of COVID-19).

Sep 2015 - May 2019 *Visiting Scholar* at the Institute of Information Theory and Automation, Academy of Sciences, Prague, Czech Republic under the invitation of Prof. Martin Kružíc in the periods: September 16 - 20, 2015; March 20 - 25, 2016; June 27 - 30, 2017; November 11-15, 2018; May 14-17, 2019.

May 30 - Jul 15, 2016 *Invitation to the Thematic Program* on "Nonlinear Flows" held at the ESI, Vienna.

Jan 2013 - Feb 2015 *Visiting Scholar* at the Center for Nonlinear Analysis, Carnegie Mellon University, Pittsburgh, PA, USA under the invitation of Prof. Irene Fonseca in the periods: Jan 31 - Feb 8, 2015; Mar 15 - 23, 2014; May 24 - June 7 2013; Jan 6 - 13, 2013.

Sep 29 - Nov 21, 2014 *Invitation to the Thematic Program* on "Minimal Energy Point Sets, Lattices and Designs" held at the ESI, Vienna.

Jul 12 - 20, 2014 *Participation in the IAS/PCMI Research Program* at the 24^{th} Annual Summer Session on "Mathematics and Materials" held at IAS/PCMI, Salt Lake City, UT, USA.

Mar 3-8, Apr 3-13, '13 *Intensive Period* on "Evolution Problems in Fracture Mechanics" at SISSA, Trieste, Italy.

Oct 2011 - Mar 2012 *Visiting Scholar* at the Department of Mathematics and Application, University of Naples, Italy, under the mentorship of Prof. Nicola Fusco.

Presentations

Jun 20-24, 2022 (tentatively) *Scheduled Invited Presentation* at the conference to celebrate the 65th Birthday of I. Fonseca, TU Vienna, Austria.

Aug 30-Sep 3, 2021	*Scheduled Invited Presentation* at a minisymposium at SIMAI Conference, Parma, Italy.
May 17 - 28, 2021	*Scheduled Invited Online Presentations* at the Minisymposia MS21 and MS33 of the SIAM Conference MS20 organized in Bilbao, Spain.
Jan 14, 2021	*Invited Online Presentation* by Prof. Dr. Anja Schlömerkemper at the "Oberseminar Mathematik in den Naturwissenschaften" at the University of Würzburg, Germany.
Mar 27, 2020 (postponed)	*Invited Lecture* at the "Seminario di Calcolo delle Variazioni & Equazioni alle Derivate Parziali", University of Florence, Italy.
Nov 19, 2019	*Invited Presentation* at the Workshop "Recent Advances in Mechanics and Mathematics of Materials" (RAM3), Rome, Italy.
Feb 22, 2019	*Invited Talk* at GAMM Annual Meeting (S14 - Applied analysis), Vienna, Austria.
Nov 12, 2018	*Invited Lecture* at the "Nečas Seminar on Continuum Mechanics" held at the Mathematical Institute of Charles University, Prague, Czech Republic.
Nov 1, 2018	*Invited Seminar* at the Oberwolfach Workshop on "Emergence of Structures in Particle Systems: Mechanics, Analysis and Computation" held at MFO, Oberwolfach, Germany.
Sep 20, 2018	*Invited Seminar* at the joint PTM-SIMAI-UMI Mathematical Meeting that will be held in Wroclaw, Poland.
July 5-9, 2018	*Two Invited Seminars* in the sessions SS75 "Mathematics and materials: models and applications" and SS144 "Analytic properties and numerical approximation of differential models arising in applications", respectively, at the 12^{th} AIMS Conference on "Dynamical Systems, Differential Equations and Applications" held in Taipei, Taiwan.
June 29, 2018	*Invited Seminar* in the framework of the Applied Analysis Day at TU Dresden, Germany.
May 21, 2018	*Invited Seminar* at the BIRS Workshop on "Topics in the Calculus of Variations: Recent Advances and New Trends" held at The Banff Centre in Banff, Alberta, Canada.
Feb 16, 2018	*Invited Seminar* at the "XXVIII$^{\text{th}}$ Convegno Nazionale di Calcolo delle Variazioni" held in Levico Terme, Italy.
Jan 18, 2018	*Invited Seminar* at the DK Winter Workshop & SFB Internal Meeting held in Reichenau an der Rax, Austria.
May 25, 2017	*Invited Talk* at the International Conference on "Elliptic and Parabolic Problems" held Gaeta, Italy.
April 4, 2017	*Invited Seminar* at the Workshop "Modern challenges in continuum mechanics" held at the University of Zagreb, Croatia.
Nov 10, 2016	*Invited Lecture* at the Augsburg-Munich Seminar, Institut für Mathematik, Universität Augsburg, Germany.
Sep 12, 2016	*Invited Lecture* at the University of Zagreb, Croatia.
Jun 15, 2016	*Invited Talk* at the Workshop on "Entropy methods, dissipative systems, and applications", held at the Erwin Schrödinger International Institute for Mathematical Physics (ESI), Vienna, Austria.
Mar 21, 2016	*Invited Lecture* at the "Nečas Seminar on Continuum Mechanics" held at the Mathematical Institute of Charles University, Prague, Czech Republic.
Feb 24, 2016	*Invited Seminar* at the ERC Workshop on "Modeling Materials and Fluids Using Variational Methods" held at Weierstraß-Institut für Angewandte Analysis und Stochastik (WIAS), Berlin, Germany.
Jul 2, 2015	*Invited Talk* at the Workshop on "Trends in Non-Linear Analysis" held at SISSA, Trieste, Italy (July 1 - 3).
Apr 30, 2015	*Invited Lecture* at the Analysis and Geometry Seminar of the American University of Beirut, Lebanon.
Mar 27, 2015	*Invited Talk* at the GAMM Annual Meeting (S14 - Applied analysis), Lecce, Italy (March 23 - 27).

Oct 16, 2014 *Invited Talk* at the Workshop on "Optimal Point Configurations and Applications" held at the Erwin Schrödinger International Institute for Mathematical Physics (ESI), Vienna, Austria (October 13 - 17).

Sep 8, 2014 *Invited Talk* at the XIX$^{\text{th}}$ Symposium on Trends in Applications of Mathematics to Mechanics (STAMM), held in Poitiers, France (September 8 - 11).

Apr 23, 2014 *Invited Talk* at the SFB ViCoM: Young Researchers Meeting held in Vienna, Austria (April 22 - 23).

Mar 11, 2014 *Invited Talk* at GAMM Annual Meeting Minisymposium hosted by FAU Erlangen-Nürnberg, Germany (March 10 - 14).

Jun 9, 2013 *Poster Presentation* at the SIAM Conference on "Mathematical Aspects of Materials Science (MS13)" held in Philadelphia, PA, USA (June 9 - 12).

May 30 - Jun 7, 2013 *Poster Presentation* at the CNA Summer School held at Carnegie Mellon University, Pittsburgh, PA, USA.

Feb 7, 2013 *Invited Talk* at the conference "XXIII$^{\text{rd}}$ Convegno Nazionale di Calcolo delle Variazioni", held in Levico Terme, Italy (February 4 - 8).

Sep 25, 2012 *Istitute Seminar* at IMATI-CNR, Pavia, Italy.

Sep 10 - 12, 2012 *Poster Presentation* at the workshop "Variational Models and Methods for Evolution" held in Levico Terme, Italy.

Feb 21, 2012 *Department Seminar* at the Institute for Computational and Applied Mathematics, University of Münster, Germany.

Jan 6, 2012 *Accepted Talk* at the AMS Special Session of the Joint Mathematics Meetings held in Boston (January 4 - 7).

Nov 14, 2011 *Contributed Talk* at SIAM Conference on "Analysis of Partial Differential Equations (PD11)" held in San Diego, California (November 14 - 17).

Organization of Events

To be determined *Mini-symposium organizer* together with P. Dondl (Freiburg, Germany) and I. Fonseca (Pittsburgh, USA) hosted at the Okinawa Institute of Science and Technology (OIST), Japan (title: *Surface patterns and instabilities: From (bio)mechanics to mathematics and viceversa*, website: `https://groups.oist.jp/mathprog`).

Feb 21 - 25, 2022 *Workshop organizer* together with G. Bellettini (U. Siena) and Sh. Kholmatov hosted the Erwin Schrödinger International institute (ESI), Vienna (title: *Free Boundary Problems and related Evolution Equations*, website: `http://cvgmt.sns.it/event/591/`).

May 17 - 28, 2021 *Minisymposium Organizer* together with F. Solombrino and B. (Napoli) at the *SIAM Conference MS21* in Bilbao, Spain (title: *Textures, interfaces, and defects in crystalline and magnetic materials: the variational viewpoint*, code: MS14, website: `https://wp.bcamath.org/siamms21/`).

May 18 - 22, 2020 (cancelled) *Minisymposium Organizer* together with E. Davoli (U. Vienna) at the *SIAM Conference MS20* in Bilbao, Spain (title: *Multiscale methods in materials science*, code: MS37, website: `https://wp.bcamath.org/siamms20/`).

Nov 11 - 15, 2019 *Workshop organizer* together with *U. Diebold* (TU Vienna) and *I. Fonseca* (CMU, Pittsburgh) of the workshop hosted at the Erwin Schrödinger International institute (ESI), Vienna (title: *Modeling of Crystalline Interfaces and Thin Film Structures: a Joint Mathematics-Physics Symposium*, website: `https://www.univie.ac.at/esi_workshop_thin_films/`).

Oct 2, 2013 *Invitation to the Roundtable Session* on "The International Researcher" at the ERC-PIRE Workshop on "Evolution Problems for Material Defects: Dislocations, Plasticity, and Fracture" held at SISSA, Trieste, Italy (September 30 - October 4).

Jun 24 - 26, 2013 *Local organizer of a ERC Workshop* held at the University of Pavia, Italy (title: *Variational Views in Mechanics and Materials*).

Member of Faculty Commissions

October 2020 — Elected Full Member of the *Fakultätskonferenz*, i.e., the Dean's advisory board, at the Faculty of Mathematics of the University of Vienna

September 2020 — Appointed Deputy Member of the *Doktoratsstudienkonferenz* for the Doctoral Program in Mathematics at the University of Vienna

Jun 2017 — Deputy member of the *commission for the habilitation* at the University of Vienna of Dr. Dietmar Ölz, School of Mathematics and Physics, University of Queensland, Australia

Journal Review Activities for:

- *Archive for Rational Mechanics and Analysis*, Springer Berlin Heidelberg (https://link.springer.com/journal/205).
- *Communications in Mathematical Physics*, Springer Germany (https://www.springer.com/journal/220).
- *SIAM Journal on Mathematical Analysis (SIMA)*, Society for Industrial and Applied Mathematics (https://www.siam.org/journals/sima.php).
- *Interfaces and Free Boundaries*, European Mathematical Society (https://www.ems-ph.org/journals/journal.php?jrn=ifb).
- *Meccanica*, Springer, (https://link.springer.com/journal/11012).
- *Discrete Cont. Dyn. - S (DCDS-S)*, American Institute of Mathematical Sciences (https://aimsciences.org/journals/home.jsp?journalID=15).

Memberships and Affiliations

Jan 2020 - Now — Chosen as Secretary/Treasurer for the *International Society for the Interaction of Mechanics and Mathematics* (ISIMM), website: http://isimm.unipg.itby the (only) candidate as ISIMM President Prof. Anja Schlömerkemper (Würzburg) for the mandate 2020-2024

Feb 2016 - Now — Affiliated to INDAM/GNAMPA at the research unit of National Research Council (CNR-IMATI), Pavia, Italy

Jan 2014 - Now — Member of the *International Society for the Interaction of Mechanics and Mathematics* (ISIMM)

Student Awards

Nov 2011 — *AMS Grad Student Travel Grant* for the Joint Mathematics Meetings, Boston, MA, January 4 - 7, 2012.

Jul 2011 — *SIAM Student Travel Award* to attend the SIAM Conference on "Analysis of Partial Differential Equations (PD11)" held in San Diego, CA, November 14 - 17, 2011.

Aug 2010 - May 2011 — *Teaching assistantship* granted to support Ph.D. studies funded by the Department of Mathematical Sciences, Carnegie Mellon University.

Feb 2007 - Jul 2007 — *Research fellowship* in the framework of a MIUR founded research project (PRIN 05), Department of Mathematics, University of Torino, Italy.

Teaching Training

Sep 2017 - Sep 2018 — Nominated by the Faculty of Mathematics, University of Vienna to attend the *Teaching Competence Plus* certificate course (https://ctl.univie.ac.at/veranstaltungen/zertifikatskurs/) of the Center for Teaching and Learning (CTL), University of Vienna. Certificate awarded on November 21, 2018.

Apr 2012 CNA (Center for Nonlinear Analysis, CMU)-PIRE Workshop on *Course and Syllabus Design* held by Marie Norman, associate director of Eberly Center for Teaching Excellence (https://www.cmu.edu/teaching/eberly/).

Sep 2008 - Sep 2011 *Teaching Training* at the Intercultural Communication Center, Carnegie Mellon University (https://www.cmu.edu/icc/).

Apr 2010 *International Teaching Assistant (ITA) Test* passed at Carnegie Mellon University.

Spring 2010 Successful attendance of the course on *Language and Culture for Teaching* held by P.A. Heidish, Director of the Intercultural Communication Center, Carnegie Mellon University.

Taught Courses

Sept 2017- Now *Lecturer* at the University of Vienna, Faculty of Mathematics for the following courses:

Fall 2019 - "Sobolev Spaces and the Calculus of Variations", graduate level.

Spring 2018 - "Topics in the Calculus of Variations" (with E. Davoli and U. Stefanelli), graduate level (see https://www.mat.univie.ac.at/~stefanelli/tcdv.html).

Oct 2013 - Aug 2017 *Teaching Assistant* at the University of Vienna, Faculty of Mathematics for the following courses:

Fall 2016 - "Partielle Differentialgleichungen", undergraduate level.

Spring 2016 - "Analysis", undergraduate level (see https://complex.univie.ac.at/fileadmin/user_upload/p_complex_analysis/skriptenlamel/Analysis_2016.pdf).

Fall 2015 - "Höhere Analysis und Differentialgeometrie", undergraduate level (see https://www.mat.univie.ac.at/~stefanelli/hoehereanalysis.html).

Spring 2015 - "Analysis", undergraduate level (see https://www.mat.univie.ac.at/~stefanelli/analysis.html).

Fall 2014 - "Einführung in die Analysis", undergraduate level (see https://www.mat.univie.ac.at/~stefanelli/einfuehrung.html);

Fall 2014 - "Einführung in das mathematische Arbeiten", undergraduate level (see https://www.mat.univie.ac.at/~einfbuch/index.html);

Fall 2013 - "Modellierung", undergraduate level (see https://homepage.univie.ac.at/christian.schmeiser/MOD-WS1314.htm);

Jun 2016 - Dec 2016 *Lecturer* at Webster University Vienna, for the following course:

Fall 2016 - "College Algebra", undergraduate level (see http://webster.ac.at/mathematics).

Aug 2010 - May 2011 *Teaching Assistant* at Carnegie Mellon University for the following courses:

Spring 2011 - "Calculus in Three Dimensions", undergraduate level (around 100 students);

Fall 2010 "Differential Equations", undergraduate level (around 100 students).

Public relations

Sep 28, 2020 Speaker at the *philanthropic streaming event "Die Stunde der Philantropie"* (website: https://www.stiftungsevent.at/) organized by UniCredit Bank Austria, WWTF, and Verband für gemeinnütziges Stiften, with other speakers the President of Austria Dr. Alexander Van der Bellen and the WWTF president Dr. Michael Häup (video presentation in German at https://vimeo.com/481611752 and of the whole event here https://vimeo.com/481615389).

Jul 24, 2020 Article on the Austrian newspaper *derStandard* advertising the projects awarded in the framework of the FWF 1000 Ideas Programme mentioning the project "*MAthematical Modeling of BOne engineering*" (MAMBOing) (https://www.derstandard.at/story/2000118961596/hochrisiko-forschung-fwf-foerdert-24-mutige-ideen-mit-3-4).

Apr 2017 Interview for the magazine *Forschen & Entdecken* from Club Wien (Number 04/2017 page 22 at https://club.wien.at/static/ePaper/forschen-entdecken-2017-04/index.html#/2).

Languages

German	B2/2 Level, certificate from Innovationszentrum, University of Vienna on September 6, 2017.
English	Fluent, ITA Test successfully passed at Carnegie Mellon University on April 23, 2010.
Italian	Mother tongue.